Listing of Claims

This listing of claims will replace all prior versions, and listings, of the claims in this application.

Claim 1 (original):   A method of assuring separation between an aircraft and potential flight hazards, comprising:

predicting an intended path of the aircraft;

identifying a potential hazard to the aircraft along the intended path;

determining a distance from the potential hazard that the aircraft is required to maintain;

determining an ability of the aircraft to maneuver to avoid the identified hazard and to remain further from the identified hazard than the distance;

determining a probability that the aircraft will not maintain the distance from the identified hazards; and

alerting a pilot of the aircraft if the probability is greater than a predetermined level.

Claim 2 (original):   The method of claim 1, wherein identifying a potential hazard further comprises:

receiving inputs representative of a weather event proximal the aircraft; and

receiving inputs representative of an aircraft proximal the aircraft.

Claim 3 (original):   The method of claim 2, wherein identifying a potential hazard further includes accessing information representative of elevations of terrain proximal the aircraft.

Claim 4 (currently amended): The method of claim 1, wherein determining the ability of the aircraft to maneuver comprises accessing a database of aircraft performance characteristics that includes at least one of aircraft climb rate, aircraft ceiling[[,]] and aircraft range.

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Claim 5 (original):   The method of claim 4, wherein determining the ability of the aircraft to maneuver further comprises analyzing inputs from a plurality of aircraft sensors to ascertain a current configuration of the aircraft.

Claim 6 (currently amended):   The method of claim 5, wherein the aircraft sensors measure at least one of an aircraft flap position, an aircraft slat position, a landing gear position, a throttle position, and an engine-out status for any engine of the aircraft, and a gross vehicle weight of the aircraft.

Claim 7 (original):   The method of claim 4, wherein determining the ability of the aircraft to maneuver further comprises determining the current operating state of the . aircraft.

Claim 8 (currently amended): The method of claim 7, wherein determining the current operating state of the aircraft includes determining at least two of a current altitude of the aircraft, a current attitude of the aircraft, an altitude rate, an attitude rate, a current heading of the aircraft, a heading rate, a current speed of the aircraft, an engine pressure ratio for any engine of the aircraft, engine temperature, and an RPM of an engine of the aircraft, and remaining fuel in the aircraft.

Claim 9 (original):   The method of claim 1, wherein predicting an intended path of the aircraft includes obtaining input from an onboard avionics navigation system.

Claim 10 (original): The method of claim 1, wherein alerting the pilot includes highlighting at least one of
    a graphical representation of the potential hazard, and
    at least part of a graphical representation of the intended path of the aircraft.

Claim 11 (original): A method of assuring separation between an aircraft and potential flight hazards, comprising:
    predicting an intended path of the aircraft;
    accessing information relative to terrain proximal the aircraft;

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receiving inputs representative of weather events proximal the aircraft;

receiving inputs representative of locations of nearby aircraft;

accessing separation information that provides a distance by which the aircraft must be separated from any of the terrain, weather events, and nearby aircraft;

determining a possibility that the aircraft, traveling along the intended path, will be less than the distance from any of the terrain, weather events, and nearby aircraft; and

advising a pilot of the aircraft if the possibility is above a predetermined threshold.

Claim 12 (original): The method of claim 11, wherein determining a possibility that the aircraft will be less than the distance from any of the terrain, weather events, and nearby aircraft includes determining an ability of the aircraft to maneuver to maintain the distance.

Claim 13 (currently amended): The method of claim 12, wherein determining the ability of the aircraft to maneuver comprises accessing a database of aircraft performance characteristics that includes at least one of aircraft climb rate, aircraft ceiling[[,]] and aircraft range.

Claim 14 (currently amended): The method of claim 12, wherein determining the ability of the aircraft to maneuver further comprises analyzing inputs from a plurality of aircraft sensors to ascertain a state of a configuration of the aircraft, and further wherein the aircraft sensors are configured to measure at least one of an aircraft flap position, an aircraft slat position, a landing gear position, a throttle position, and an engine-out status for any engine of the aircraft, and a gross vehicle weight of the aircraft.

Claim 15 (original): The method of claim 12, wherein determining the ability of the aircraft to maneuver further comprises determining the current operating state of the aircraft.

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Claim 16 (currently amended): The method of claim 15, wherein determining the current operating state of the aircraft includes determining at least [[two]] one of a ~~current altitude of the aircraft, a current attitude of the aircraft, an altitude rate, an attitude rate, a current heading of the aircraft, a heading rate, a current speed of the aircraft, an engine pressure ratio for any engine of the aircraft,~~ engine temperature [[,]] and an RPM of an engine of the aircraft, ~~and remaining fuel in the aircraft.~~

Claim 17 (original): The method of claim 11, further comprising:

accessing information relative to areas of restricted airspace proximal the aircraft;

accessing separation information that provides a distance by which the aircraft must be separated from the restricted airspace;

determining a possibility that the aircraft, traveling along the intended path, will be less than the distance from the restricted airspace; and

advising a pilot of the aircraft if the possibility is above a predetermined threshold.

Claim 18 (currently amended):   A system for maintaining a required separation distance between an aircraft and potential hazards, comprising:

a processor;

a source for information on the flight path of the aircraft;

a plurality of hazard information sources that provide information on potential hazards to the aircraft, each of the hazard information sources providing an input to the processor;

a database of aircraft performance characteristics, the database accessible by the processor;

a source of required separation distances for each of the potential hazards, the source being accessible by the processor;

a plurality of sensors that provide inputs to the processor relative to the operating state of the aircraft;

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wherein the processor determines a possibility that the aircraft, traveling along the flight path, will violate any of the required separation distances, and whether the aircraft can maneuver to maintain the required separation distances; and

a visual notification apparatus configured to ~~display an advisory~~ highlight at least one of a graphical representation of a potential hazard and at least part of a graphical representation of the flight path of the aircraft, to thereby advise of the possibility of a violation of any of the required separation distances.

Claim 19 (original):   The system of claim 18, wherein the plurality of hazard information sources provides information on at least two of nearby weather events, nearby aircraft traffic, and nearby terrain elevation features.

Claim 20 (canceled)

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